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Yup'ik perspectives on climate change: "The world is following its people"
Perspectives yup'ik sur le changement climatique: «Le monde suit son monde»

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Résumé de l'article

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Abstract: Yup’ik perspectives on climate change: “The world is following its people”

The Nelson Island Natural and Cultural History Project originated in the desire of community members in the Yup’ik villages of Chefornak, Nightmute, Toksook Bay, Tununak, and Newtok to document and share their history with their younger generation. To do so, they invited non-Native scientists to join them in village gatherings as well as on a three-week circumnavigation of Nelson Island (Alaska), during which elders reflected on changes in weather patterns, animal migrations, sea-ice conditions, and related harvesting activities. To date, a defining feature of our conversations has been the integrated way in which information is shared and elders’ reticence to distinguish between human impacts on the environment and the “natural” effects of climate change.

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Introduction

In 2006, the Nelson Island Natural and Cultural History Project was initiated by Nelson Island community members and implemented through the Calista Elders Council (CEC), the primary heritage organisation for southwest Alaska, representing 1,300 Yup'ik elders. Mark John is CEC's executive director, Alice Rearden, Marie Meade, and David Chanar are the principal translators, and I am the project anthropologist. Mark, Alice, and I have worked together since 2000 on a variety of CEC projects, all of them initiated by CEC's board of elders. These nine Yup'ik-speaking men, representing villages throughout the Yukon-Kuskokwim region, actively support the documentation and sharing of traditional knowledge, which all view as still possessing value in the world today.

CEC's primary information-gathering tool has been the topic-specific gathering. The CEC pioneered this format while working with elders between 2000 and 2005 on a major traditional knowledge project. CEC staff found that specific topics were best addressed by meeting with small groups of elder experts, accompanied by younger community members, for two or three days. Unlike interviews, during which elders answer questions from those who often do not already hold the knowledge they seek, gatherings (like academic symposia) encourage elders to speak among their peers at the highest level. CEC gatherings always take place in the Yup'ik language, as the form of information sharing is as important as the content. Translators then create detailed transcriptions and translations of each gathering, and we work together to turn the transcripts into bilingual publications and accompanying English texts. To date CEC has produced three sets of "paired" books—an English one for general audiences and a bilingual one for community use (Andrew 2007; Fienup-Riordan 2005a, 2005b, 2007; Meade and Fienup-Riordan 2005; Rearden et al. 2005). In gatherings elders speak about their past selectively, not comprehensively, and what is not said is often as significant as what is said. Long and careful listening to these conversations provides unique perspectives on Yup'ik knowledge (Fienup-Riordan 2005b: 1-41). In these forums elders teach more than facts; they teach listeners how to learn. They share not only what they know but also how they know it and why they believe it is important to remember.

The Nelson Island project also relies on topic-specific gatherings as the primary information-gathering tool. Yet this project is unique for us in many ways. It is the first CEC endeavour with a group of local communities—the five Nelson Island villages of Chefornak, Nightmute, Toksook Bay, Tununak, and Newtok—rather than the region as a whole. Also it is our first attempt to incorporate additional scientists for a unified study of two topics often viewed separately—natural change and cultural history. This study is timely as both the natural and cultural environments of Nelson Island are changing rapidly. Third, the Nelson Island project depends on CEC and community collaboration with other regional agencies, including Calista Corporation, the Association of Village Council Presidents, and U.S. Fish and Wildlife—each of which contributed the time and expertise of one staff scientist, without whom our project would not have been possible.

Activities during 2007 included a January planning meeting in Toksook Bay, followed in March by a series of three-day topic-specific gatherings in each of the five communities. The high point was a three-week July circumnavigation of Nelson Island, led by Nightmute elder Simeon Agnus. Our initial January meeting set a clear agenda for summer fieldwork. In addition to planning the trip—dates, camping sites, and travel routes—elders from all five villages emphasised the importance of sharing knowledge with their younger generation. One said that the trip would be "like going to college." Many showed enthusiasm for visiting historic and prehistoric sites and documenting place names as we travelled, including names of sloughs, hills, points, and even sandbars and underwater channels.

John Eric (January 2007) of Chefornak observed: "The ocean cannot be learned," and Stanley Anthony (January 2007: 147) of Nightmute stated: "One must not say, 'The ocean isn't daunting.' The ocean is aware and knowing. A person should not approach the ocean with confidence."[1] Simeon Agnus (January 2007: 3) said: "We must teach our children about the land, also." These statements emphasised the tremendous knowledge required for hunting, and how retaining it is critical to safe travel for contemporary young people. John Eric then spoke about the form of these teachings—pithy *qanruyutet* ('wise words or instructions') covering every life situation—and regretted that today these instructions are rarely heard: "Since those people are now all gone, that way [of teaching] is also gone. Today I no longer hear many things that I heard in the *qasgi* ('communal men's house'). And although we have become instructors, that [form of teaching] is now nonexistent, since there are so many things that are distracting to our way of life today." John also supported CEC's past and future efforts to share elders' words in written form: "Indeed, people who don't have anyone to instruct them, by looking at a book [they can learn]."

The mandate was to document and share *qanruyutet* about proper social relations. It was in part realised by CEC's first two major publications—*Yupiit Qanruyutait/Yup'ik Words of Wisdom* and *Wise Words of the Yup'ik People: We Talk to You because We Love You*, both published in 2005. Yet, as elders emphasised from the beginning, everything has rules: no one book could hold all a person needed to know. Elders' primary concern has always been that young people understand how to treat one another—their parents, their children, their spouses, their relatives, even their non-Yup'ik *aipait* ('counterparts')—and rules guiding these relationships fill both books. Yet elders also regret that many young people lack knowledge of *ella*—translated variously as weather, world, or universe—which many continue to view as responsive to human thought and deed. Contemporary Yupiit may use *ella* to denote atmosphere, environment, and climate. Clearly the Western concept of ecosystem as an integrated system of natural and cultural phenomena is not new to Yup'ik people. Paul Tunuchuk (March 2007: 216) of Chefornak exclaimed: "Everything inside *ella* has customary teachings and instructions attached to it—the air, the land, and water. And they mention that we must treat it with care and respect. What will become of us if we don't treat it with care?" (Fienup-Riordan in press).

1 Elders' statements throughout are cited by gathering date and transcript page number.

Ella cimissiiyaagtuq ('The weather has changed so much')

An undercurrent of concern ran throughout our discussions of the land and sea. Everything—rivers, lakes, wind, waves, snow, ice, plants, animals, and weather in every season—seems to be changing. All agreed that the weather is becoming warmer. Paul John (December 2007: 324) stated what many know well: "We happened to catch the time when it used to get [severely] cold. And frost formed, even inside homes, since wood [for heat] wasn't readily available to us down along the marshland. When snow covered [their homes], only their smokestacks would be visible, and they made windbreaks for their windows and doorways." Lizzie Chimigak (January 2007: 303) of Toksook Bay also commented on the sun's heat: "At the present time, the sun's heat spoils some food. In the past, when they got herring, they left them alone for a while [before hanging them to dry]. Nowadays their intestines start to rot right away. And many fish hanging to dry are ruined when people don't turn them and cover them." John Eric (March 2007: 224) shared a number of vivid markers of cold weather: "The sound of people walking on the [dry] snow could be heard from inside the house, even when that person was far away since it evidently used to get so cold long ago. And sled runners used to make noise on top of the snow as they approached. I no longer hear that noise these days." Although cold, the weather was often calm and windless in spring.

Ella iqlungariuq ('The weather is becoming a liar')

Many commented on the increasing unpredictability of today's weather. According to Paul John (January 2007: 11): "They said that wild rhubarb became as tall as people back when cold weather formed frost without any erratic and stormy weather. Then they began to say that since weather conditions are now unpredictable and stormy, the wild rhubarb no longer forms frost." Camilius Tulik (March 2007: 565) noted how today wind appears to be coming but does not arrive: "And when it is about to do something, it doesn't come to be. When it seems that it is going to get windy, it gets completely calm. [*laughter*]" Traditional weather predictors are no longer reliable. John Eric (March 2008: 154) noted: "In the past, after a long incidence of cold weather, these mountains [appear to] rise and become steep. And these cliffs that are great distances away are also clearly visible. Those people would say that there was a mirage effect and that the weather was about to change. Although that occurs these days, they no longer use it to predict weather change. Although Nelson Island rises, the weather never changes."

According to Camilius Tulik (March 2007: 502): "The weather, like they say, has become a liar. When it is supposed to be calm, big winds come. When it seems like it will not get calm, it does. [*chuckles*]" Paul John (March 2008: 595) added: "I believe what the deceased shaman of Nightmute said. He said that *ella* is becoming an incessant liar. He said that although it seemed the weather was going to turn out a particular way, these days it no longer materialises. That seems to be true. After it seemed as though it wasn't going to be windy, it gets windy. And although it appears as though the weather is going to be bad, it improves." Paul John's statement makes clear

what many believe—that their own elders predicted this unpredictability. According to Paul Tunuchuk (March 2007: 213): "The weather conditions aren't like they were when I first became aware.[2] My grandfather told me many times that in the future there will no longer be a winter season." John Eric (December 2007: 333) explained the prediction that *ella* would return to its original state: "Concerning weather change, my deceased grandfather used to say that *ella* never had a winter season long ago. He said that when there is no longer a winter season in the future, *ella* will return to its original state. But he said that the lower forty-eight states used to have a winter season and that the weather would switch." Peter John (March 2007: 1198) of Newtok was equally nonplussed: "I'm not surprised that it doesn't get as cold as it did in the past as I used to listen to sayings and predictions. Those first ones said that our land will no longer have a winter season in the future and the area [to the south] will start to have winter seasons. Although they've announced that this [global warming] is occurring, I'm not surprised by it, since I already heard that prediction."

Qanikcarpaguatuuq-gguq ('It pretends to have a lot of snow')

CEC board member John Phillip (October 2005: 119) of Kongiganak grew up in a land blanketed by snow: "All winter long, we would shovel deep in places where we set our wooden conical fish traps under very deep snow. They wouldn't freeze because the snow covered them. And these days, even though a lake is deep, it freezes all the way down. And the river no longer has fish, because it freezes, even though it has a current. Because the lakes are getting shallow, they have begun to freeze up. Those are the changes that I have observed on the land surrounding us." According to Frank Andrew (June 2005: 9) of Kwigillingok: "There was a lot of snow here in the past, and it covered the houses. That's why there was a lot of water out in the wilderness. Times have changed." George Billy (February 2006: 401) of Napakiak added: "*Qanikcarpaguaruuq-gguq* ('It pretends to have a lot of snow'). Today when the snow melts, there won't be much water."

Warming temperatures also translate into later freeze-up and earlier break-up in coastal communities. Peter John (March 2007: 1196) explained the trend: "Winter seasons vary. Sometimes winter comes sooner and sometimes later. Spring and fall cannot always stay the same every year. But nowadays it's not like it was in the past. Then when it started to get cold, the ice froze and wouldn't stop freezing. It used to get cold in October and November. These days sometimes it doesn't get cold for a long time."

2 "To become aware" refers to the age when a child becomes conscious of his or her surroundings.

Imarpiim cikuan cimillra imarpigmiutaat-llu cimillrat ('Changes in sea ice and its inhabitants')

As temperatures warm, Yup'ik elders have observed corresponding changes in sea ice and, as a result, access to the sea mammals that call the ice home. Paul John (January 2007:9) noted that recently shore-fast ice is both thinner and less extensive: "When *tuaq* ('shore-fast ice') formed a good distance out toward the ocean, they caught many sea mammals at that time and knew that they wouldn't be scarce. Nowadays, the shore ice no longer extends far out because the weather isn't as cold as it was in the past." Lizzie Chimigak (January 2007: 427) shared John's concern: "Kangirrluar [Toksook Bay] down there isn't like it was during past spring seasons. [I know] since I rely on these men who go seal hunting for food. Sometimes the shore ice isn't as extensive as it used to be. And they no longer mention the formation of *aayuqat* ('large crevices')." John Eric (December 2007: 334) compared past and present:

> The changes in the weather and the ocean have occurred in my presence. Back when the weather was [severely] cold, the ocean down below our village froze a great distance away from shore. And the shore ice would be dry; there were no wet spots on the snow. There were also many birds and seals. And after a large amount of ice had been pushing up against [the shore ice], when a head could fit through, a ringed seal would immediately appear. That no longer occurs today as the weather has changed.

Paul Kiunya (January 2007: 4) of Kipnuk noted that fewer *evunret* ('ice piles') form: "When I was a boy, many *evunret* were down in the ocean, but these ice formations cannot form these days." As some bays and river mouths become increasingly shallow, ice is also piling in new places. Stanley Anthony (January 2007: 128) noted the same is true of *et'galqitat* ('ice beached in shallow areas'): "These days, Kangirrluar and the areas that once had no *et'galqitat* now have *et'galqitat* because the ocean is getting shallower. Since the ocean is changing, some areas that were deep are now shallow, and sandbars that were never visible are starting to appear." Many observe that shore-fast ice does not stay as long as in years past. Stanley Anthony (January 2007: 129) said: "Kangirrluar no longer has genuine shore-fast ice on it. In the past birds would arrive while ice was still there, and the ice was safe for a long time." Even when ice forms during winter, a south wind in spring can push the pack ice close to shore, covering open water and driving seals far from shore.

Hunters also lack safe ice for butchering seals. Stanley Anthony continued: "These days, when catching an animal, one has to search for a place to butcher it. Back when I first started hunting, a suitable place to butcher the animal was nearby, and one could just quickly climb onto the ice and butcher it." John Eric (March 2007: 262) noted that seals also lack ice: "Those adult bearded seals and even walrus could lay on top of *angenqaat* ('large ice floes') when they were far from shore. Even though there were ocean swells, the water would only reach their top edges. Those [large floes] were good because they were thick and not dangerous. But ice floes are no longer like that today. They have gotten thinner, and some break to pieces when we go on top of them. They are mostly snow." *Cikullaq* ('newly frozen ice along open water') is also less extensive.

According to David Jimmie (January 2007: 133) of Chefornak: "When *cikullaq* forms, it thickens rapidly as thin sheets of ice stack and layer over one another. When one sheet of ice piles over another, a boat is unable to travel right away. That's what happened in the past. Since *cikullaq* no longer forms extensively, that no longer occurs."

As ice conditions change, so does the presence of seals that make it their home. Simeon Agnus (January 2007: 118) observed: "These days the seals have been arriving earlier. In the past an abundance of seals were available closer to the summer season." Stanley Anthony (January 2007: 131) agreed: "Sometimes they catch many [seals] when they happen to hunt at just the right time. Nowadays seals seem to pass during winter. They seem to arrive earlier these days." Seals were also more plentiful in the past. Stanley Anthony (January 2007: 136) noted: "Back when I was young, there were a great many seals, different kinds, emerging from the water down below the shore. These days, seals are only seen after many trips. They are becoming scarce, their numbers are declining." Lizzie Chimigak (January 2007: 428) noted that even when seals are available, lack of ice shortens the hunting season: "These days, it seems as though sometimes their seal-hunting season is cut short, as though the ice prevents them from [hunting during the entire season]. They lack ice to hunt on. When they didn't catch as many young bearded seals as they normally do, I was disappointed, and eventually all the ice melted down on the ocean."

Ocean fish are likewise changing in availability. Many Nelson Island elders speak of Pacific cod, which were harvested until the 1950s but are no longer seen. Capelin and herring are also declining in numbers. Commercial fishing on the high seas is blamed. Paul John (January 2007: 8) declared: "It is obvious that the large trawlers that are dragging the bottom [of the ocean] for our fish have hurt [the number of fish that are available]. Many years ago, when they first trawled down below Nunivak Island, they didn't catch any herring on Nelson Island. Although they caught a few, [the herring] were small and escaped their nets, and they didn't catch any after the first large trawlers fished there." John Phillip (January 2007: 6) noted that what they do with the catch is as harmful as their catching methods: "When trawlers started to turn up along the ocean, some of these species of fish diminished in number. I heard that they dump and discard fish that aren't part of their intended catch. Our elders used to say that if people wantonly waste fish, they will decrease in number. Indeed, since they began to trawl for fish below Nunivak Island, the tomcod which we consume have been unavailable."

Nunam qainga kuiget-llu cimillrat ('Changes on the land and rivers')

The broad, marshy lowland of the Bering Sea coast has always been subject to slow subsidence—as sediments compact steadily under their own weight—and erosion, as sea level rises. Recently, however, the rate of change has escalated. Many comment on this sinking. Peter Matthew (March 2008: 38) of Chefornak stated: "Up to this day the entire wilderness has changed. The steep places that we used to see have sunk,

especially the areas along the edges of hills. The places where they used to set metal traps and hunt for mink during fall have disappeared." Many attribute this sinking to melting permafrost. Paul John (January 2006: 17) explained: "They refer to it as *cikuq* ('ice'). They say that the grassy knolls have sunk because the [ice] underneath that had always stayed frozen has melted." He (March 2008: 568) added: "The old villages of Cevv'arneq and Arayakcaaq that used to be situated on high ground have sunk down. And inland around the hills, many *allngignat* ('tundra islands') have sunk and become scarce. The melting land is obvious."

Land is sinking all across the delta, affecting the animals that live on it. John Phillip (January 2006: 26) spoke of the lower Kuskokwim coast: "There were many mink [in the past]. Since their birthing dens are sinking into the ground, their numbers are declining." Muskrats have also declined. According to John Eric (March 2007: 208): "Although there didn't seem to be many muskrats around in the past, people would catch lots. But now that people no longer hunt these muskrats, I wonder, 'Why haven't their numbers increased in lakes?' Out in the wilderness, I no longer see a muskrat swimming in the evening. Or is it because some entity made things available for people to use in the past [and no longer does so]."

Periodic storm surges, especially in fall, have always flooded coastal lowlands but have likewise become more frequent and severe. John Phillip (December 2005: 109) said: "Today it floods more often. In the past it only flooded in fall once in awhile, covering our muddy lowland. This past fall it flooded and covered the land three times when it was windy down there." Like sinking ground, flooding affects the land's inhabitants. John continued: "There used to be plenty [of Arctic hares] in the summer downriver, but after it began to flood they decreased in number. Voles also become few after floods in our village. The flood would kill them. In the past when it rarely flooded there were plenty."

Land is also eroding faster. Newtok has lost over 3,000 feet of shoreline in front of the village in the last fifty years, and the community is moving to higher ground on the north side of Nelson Island. Although Newtok is an extreme case, erosion is region-wide. John Eric (December 2007: 334) observed: "Indeed concerning changes in *ella*, the land and our river are eroding before my eyes; the mouth of our river has gotten wide." Many old village sites have eroded, and in some cases their imminent demise has led to their abandonment.

As the land melts and erodes, bays and rivers fill with silt and mud. John Phillip (January 2006: 26) noted that less snow today means less water, and currents have weakened in many coastal rivers and channels. Peter Matthew (March 2008: 38) gave an example: "The Chefornak River used to have a strong current. These days, it no longer has a [strong] current, and the river mouth to the ocean has become shallow." John Eric (March 2007: 203) described changes at the river's mouth: "During eight years, eight feet of land was eroded [from the bank] [and it has widened]. When I went up from the ocean some time ago during an extreme low tide, the inside of our river downstream is now covered by sandbars since it has become wide. These rivers change

and fill with sediment, and the deep, navigable channels also change. And the sandbars are also changing down on the ocean and aren't like they were in the past."

Lakes are also drying up. Paul John (January 2006: 16) said: "Some lakes that were once filled with water are now empty, as they have a source to drain probably due to the melting. These days, [some lakes] no longer have water in them. They begin to refer to them as *nanvallret* [dry lakebeds] when they empty and different grasses start to grow in them. The changes that have occurred are noticeable through those indicators. The warming of *ella* has caused that to occur." Paul Kiunya (October 2005:6) observed: "The land is drying, too. There isn't as much water as there was in spring. These old lakes we call *nanvallret* would fill with water [after the snow had melted], and it became possible to travel though them with kayaks, before the water drained."

Freshwater fish are still plentiful. Simeon Agnus (December 2007: 340) said: "The fish that we eat haven't changed, but for a number of years now blackfish have decreased down in our village. [These days] they usually become plentiful just before freeze-up; then they become scarce when winter comes." John Phillip (February 2006: 176) attributed this decline to increasingly shallow streams freezing to the bottom: "Some rivers have a run of blackfish all winter when it's deep. The [availability of blackfish] doesn't cease, and eventually, when the water where blackfish are located gets dark, they taste a little like feces when cooking them, but they are still good eating. But since there isn't a lot of snow nowadays, since [the streams] freeze [down to the bottom], it is no longer like that during our time."

Some freshwater fisheries have reportedly become less accessible because of the rapidly increasing beaver population all over southwest Alaska. Peter Matthew (March 2008: 38) remarked: "[Beavers] are ruining rivers that they build their dams on. The places where they fished for blackfish aren't like they were in the past." Simeon Agnus (December 2007: 381) declared: "The two rivers downriver from [Cakcaaq], Talarun and Urumangnaq, once had [an abundance of] fish back when there were no beavers. But they no longer have that many [fish], since the upper parts of those rivers are no longer rivers." John Eric (January 2007: 9) remarked: "These beavers are destroying these wonderful natural rivers, and they don't ask, but here we mention that it is on federal land. We should write to those beavers. [*laughter*]" Some non-Native peoples suggest trapping beaver might alleviate the problem, but coastal people—who neither eat beaver nor use many beaver pelts—are reluctant to hunt what they do not use.

Generally river and lake ice was thicker in the past. John Walter (March 2007: 1393) of Tununak noted: "It seems that ice [today] isn't as thick as it was back when we used to dip-net at Cevv'arneq." Tununak elder Tommy Hooper added: "Looking at the ice, it isn't as thick as it was back in those days."

Vegetation is also changing. Tommy Hooper (March 2007: 1391) observed: "Things that grow on the land are starting to grow earlier. These salmonberries and crowberries are starting to grow before the time that they grew in the past." Lizzie

Chimigak (January 2007: 306) stated: “The salmonberry growing season comes early sometimes, and they are ready [to pick] very early. It’s probably because of the temperature increase.” Ruth Jimmie (March 2008: 587) of Toksook Bay added: “The crowberries turn brown quicker, and they taste different. These days, one cannot delay in picking them. Sometimes we wait to pick them until they taste better, and when we finally pick them, we’ll see that they’ve turned brown.”

Southwest Alaska’s coastal wetlands support hundreds of thousands of migrating waterfowl each year, and most shorebirds and songbirds continue to be numerous. Yet these numbers do not compare to the millions seen in the past. Lizzie Chimigak (January 2007: 429) recalled migrating waterfowl around Nelson Island, especially snow geese: “These birds were the first to become scarce. Those many snow geese didn’t seem as though they could deplete in number, and when we were living out there camping in tents, the area used to turn white from the many snow geese. The birds they called *kangut* (‘snow geese’) are no longer around at all.” John Eric (March 2007: 200) noted the disappearance of snow geese as well as king eiders: “There were many birds when I first became aware of life. And large flocks of king eiders during spring would head our way looking like smoke down on the ocean. Indeed, I only grazed on those things in the past. King eiders aren’t that abundant nowadays, and other birds are also decreasing in numbers.”

Ellam cimillran kangia (‘Why the world is changing’)

Elders offer their own interpretations of the causes underlying these changes. Some say changes began following the 1964 earthquake—felt as a rolling wave in coastal communities. Others mention the atomic bombs dropped on Hiroshima and Nagasaki in 1945 and the Exxon Valdez oil spill of 1989. These events are likely seen as markers of change rather than as causes. Paul John (December 2007: 376) spoke at length on the impact of one change in attitude on the abundance of animals. He said that animals remain plentiful where people share resources but no longer appear where squabbling occurs:

> Our ancestors admonished us not to quarrel over food. They say when people have disputes over food that it gradually becomes scarce. I use fur animals as an example. Back when we made efforts at catching mink during fall, after seeming as though they were all gone, there would be more the next year, since people depended on them and used them. And during spring, although we hunted muskrat to the best of our ability, after seeming as though they were all gone, some years they’d become available in greater numbers, back when [muskrats] were people’s only source of income. Food is no different. Although a capable person subsists for food, it can be available again when its time comes around.

Simeon Agnus (December 2007: 378) wholeheartedly agreed and gave the Cakcaaq River as an example: “We welcome villages beyond ours to subsist at Cakcaaq. Since it belongs to the people of Nelson Island, it is ours. And we open subsistence [at

Cakcaaq] for the villages beyond ours." Because Nelson Islanders share Cakcaaq's rich fishery, the river continues to provide abundant resources.

As these discussions make clear, the Yup'ik conception of *ella* includes both natural and social phenomena. How we treat our fellow humans directly affects our relations with the world around us. Thus, contemporary elders are as much concerned about changes in human relations as about changes in the so-called natural world. They recall with feeling how people treated each other in the past, compared to the present day. Young people used to be shy and respectful toward their elders, whom they could only address with *tuqluutet* ('relational terms'), never their proper names. John Eric (December 2007: 334) recalled the respect he had for his older sister and the food she served him:

> After playing outdoors, when I'd go inside, my older sister would give me food to eat, or even fry bread, or when there were a number of us, sometimes she'd split one small piece of candy into three pieces when I'd bring my friends inside. What a large amount that was to me. And we never said, "I want more." That was something difficult to say. During that time, before *ella* changed, people were much better. And the people who instructed them led respectable lives.

Paul John (March 2008: 602) noted that although food was sometimes scarce in the past, people did not let their relatives starve:

> These days the weather seems to stay cold past its usual time, but our refrigerators and freezers don't allow us to experience starvation. If our situation was like it was in the past, we would probably die of starvation during this time. Back when we first became aware, during this time of year, some people had no food whatsoever, back when there were no food stamps. But since we Yup'ik people had close family bonds, our relatives who had food to give would help their relatives and allow them to reach a time when food was available to eat because it is a tradition of these poor Yup'ik people.

In an earlier discussion, CEC board member Peter Jacobs (January 2007: 13) of Bethel explained how past elders also tried to understand change:

> Our elders always tried to gain an understanding of why something was occurring. […] Our elders' predictions are now coming true. These days we recognise their predictions when we encounter them. In the past they would mention that, even though something will eventually occur, they were trying to delay it, what they called *yaaveskaniqangnaqluku* ('trying to delay an impending occurrence'). […] They constantly spoke [and gave instructions]. And they also said, "We are speaking of this out of experience." They'd mention that the weather wasn't like it was in the past. They tried to understand what caused it to become that way. People said in the past that the weather has become like this following its people.
>
> Our elders feared Ellam Yua [the Person of the Universe] long ago, and I think Ellam Yua gave them the wisdom to know about things that would occur in the future. It's no different than when they convene in Washington D.C. to pass legislation. Since *ella* will continue to worsen, [Ellam Yua] can also give them wisdom.

Peter Jacob's reference to the world following its people cuts to the heart of Yup'ik understandings of change. Dozens of elders repeated this phrase in many contexts. Many made a direct connection between disrespectful treatment of *ella* and subsequent changes. According to Paul Tunuchuk (March 2007: 110): "During my lifetime, *ella* is worsening since we are no longer treating it with care and respect." John Phillip (December 2005: 120) stated: "I hear the *qaneryaraq* ('saying') that our land and weather will worsen and change along with the people. What our ancestors said stays in my mind. The environment isn't like it was in the past because it is no longer treated with respect and care." Paul Kiunya (October 2005: 1) noted: "I have reached the instruction that we were given concerning the weather. They said that if people get bad, the weather will get bad following its people."

Sophie Agimuk (January 2007: 431) of Toksook Bay also spoke of *ella* changing with its people, relating these changes directly to people's failure to follow traditional *qanruyutet* ('instructions') and *eyagyarat* ('abstinence practices'):

> They used to talk about *ella*. They mentioned that long ago, people always treated the world with respect because all the customs they followed had a purpose. They said that since people have stopped treating *ella* with respect these days, its condition has deteriorated. And people who carried out subsistence activities by travelling down to the ocean and out on the land would observe *eyagyarat*. Now that they no longer practise those customs, we only hear about them from time to time. And when they lost a family member, they would always follow *eyagyarat* and the bereaved hardly travelled out to the wilderness. Nowadays *ella* is especially in its current state because they have started to transport [dead] bodies by air.
>
> Again, when women had their first menses, they didn't allow them to walk around outdoors. It is said people in that situation followed those customs because of their possible effect on *ella*. These days, people don't know about those practices, and our poor world is deteriorating. It's progressively worsening, and it's as though we poor people have become thoughtless and irrational. Although we voice our concerns, [*ella*] has deteriorated. These days, we no longer practise the ways that they followed when we first become aware of life.

John Phillip (October 2005: 23, 117) testified to the continued awareness of *ella* and its reaction to those who break its rules:

> By following us people, our weather has changed; it has gotten bad. And they would say this about *ella*: Those who had their first menses and those who had a miscarriage are told not to travel. Those people had a teaching like this also: If their relative died in the wilderness, they didn't bring him anywhere but buried him there. It is said the weather will know about that dead body and cause bad weather if they take a person's body elsewhere. Those people tried to live following their *inerquun* ('cautionary rule'). Today those rules are no longer followed. And now, they say that people have turned into white people, so to speak. When people die nowadays, they travel by plane and return home. I have noticed after [the deceased] is transported, the weather gets bad sometimes. It knows [of the death]. *Ella* is aware [...]. And our young people no longer follow *inerquutet* ('admonishments') down on the ocean, even if his spouse just had a child or a miscarriage. It is no longer how it was back then. *Ella* is changing because it is not treated with care [...].

> And our water must be treated with care also. It is said that *mer'em makuara* ('the waters' particles') have good eyesight. It is said that [*makuat*] will be aware of those in that circumstance. Not respecting our land has caused it to change.

John Phillip is not alone. David Jimmie (January 2007: 137) attributed the early arrival of ocean swells and subsequent break-up of shore ice and loss of many snowmobiles off the coast of Chefornak to the fact that a man whose son had died travelled to the ocean to hunt: "The ocean is aware and knowing, and the ocean has good eyesight. That person who went seal hunting after [his son] died caused the ocean swells to form when he went down [to the ocean]. The customs which our ancestors followed won't be lost."

Elders south of Nelson Island emphasise the negative impact of failure to follow *eyagyarat* and the world's awareness of human transgressions. Nelson Islanders focus on changes in interpersonal relations rather than relations between humans and their environment as the primary causes of change. Simeon Agnus (July 2007: 581) stated: "Our way of life is not like the way of life our parents experienced. Our parents mentioned that *ella* is getting worse, following its people. Since its people are becoming bad, the weather is replicating their behaviour." Paul John (December 2007: 323) shared his reflections on changes in the world around him, both natural and social:

> When I was a boy, one of the elders told us the following, "Since you young people are no longer making efforts at improving the weather, storms have become more frequent today." This is how I understood the meaning behind that statement. We young people during that time did not work hard like they did, and we didn't lose sleep over efforts at leading proper lives. We did not experience what our ancestors experienced, what they call *cilkiaryaraq* ('strenuous training to become good hunters') like they did. Since we weren't working hard like our ancestors, that person told us that storms are becoming more frequent because we weren't improving it [through our efforts].

Like many of his generation, Paul John believes these changes were predetermined. Martina Wasili (March 2007: 210, 218) agreed: "I recognise the prediction that they made that *ella* would deteriorate. How did those people see our future? There is nothing surprising about what's occurring these days. [My father] always said, "*Ella* will become terrible along with its people. When they reach that time, how pitiful they will be]."

Qanruyutet cimirngaitut ('Instructions will not change')

As stated by John Eric (January 2007: 15), although both *ella* and its inhabitants are changing, *qanruyutet* ('instructions') remain the same. Elders admonish us to look to the *qanruyutet* for a solution to climate change and global warming. If we correct our behaviour toward one another, they say the world will be a better place. Simeon Agnus (December 2007:134) reminded his listeners: "No matter which village you travel to, you will listen and recognise the things that we talked about. The teachings of the Yup'ik people, their *alerquutet* ('admonishments'), are the same. At this time, we are

telling stories based on the few things that we've heard and aren't adding things [that are fabricated]. I wish that the people who have died were talking to you now in the authentic way!" Peter John (March 2007: 1164) spoke of his father's instructions, which he uses to this day: "Taking the oral instructions with you when travelling gives you good judgement. I continually take the instructions with me, and it is like I'm constantly accompanying my father by following his instructions. Every time I go to the wilderness, I never forget the instructions that he gave me. Indeed, when one makes an effort at following the instructions on the land and ocean and doesn't forget them, they are valid."

At the close of our Nelson Island gatherings, Paul John (December 2007: 366-372) shared a long, eloquent account of some of the most important instructions that he was given while growing up and that he continues to live by. Like him, many remembered with gratitude their own elders sharing *qanruyutet* and the admonishment that they in turn share them. David Jimmie (March 2007: 212) recalled: "My grandfather told me, 'When I eventually stop advising you when I am gone, remember the instructions your father and mother gave you.' And he told me not to keep the instructions that my parents gave me, but to constantly reveal them."

Elders agreed on the need to continue to instruct young people today for the same reason—because they love them. Simeon Agnus (January 2007: 3) placed particular importance on teaching about the ocean: "In spring the ice changes down on the ocean every day. One cannot mention with accuracy the location of a particular place. Although one wants to go to that place, they cannot go there if ice accumulates. One has to use caution down on the ocean. I tell these young men not to say that they've learned the ocean, since I stopped going to the ocean before I learned it." Knowing the land is also important. Simeon continued: "[Travelling] on the land isn't as worrisome [as travelling on the ocean]. That's the only thing that I mention to some young men. I tell them to look around and study surroundings in unfamiliar territory. 'Although you won't always travel in that area, one day when you arrive there, you will recognise it.'"

Paul John (December 2007: 385) noted that only a person who instructs himself and takes responsibility for his actions can lead a good life: "A person who is constantly instructing himself to live in a way that will result in his own well-being, through his own efforts, is evidently following a course of life that will result in leading an honourable life." Simeon Agnus (December 2007: 365) held a similar view of personal responsibility: "Nelson Island, in my thinking, is situated in the middle of fish. But although there is an abundance of fish, those of us who are lazy run out [of fish] when winter comes. We are responsible for our own livelihood."

Conclusion

Given their view of personal responsibility, it is no surprise that elders make a connection between human impacts on the environment, including the effects of commercial fishing and overhunting, and the "natural" effects of climate change.

Throughout our discussions, they continually referred to the role of human action in the world when describing changes in the environment or species availability. Their insistence that "the world is changing, following its people" logically flows from their view of the world as responsive to human thought and deed. *Ella* has always been understood as intensely social. The Western separation between natural and social phenomena sharply contrasts with our Yup'ik conversations, which eloquently focus on their connection (Cruikshank 2005: 9).

The adage, "The world is changing following its people," captures the Yup'ik view that environmental change is directly related not just to human action—overfishing, burning fossil fuels—but also to human *interaction*. As Paul Tunuchuk (March 2007: 216) said: "We are in this situation today because of not being dutiful to each other. It's as though we are sleep walking." To solve the problems of global warming elders maintain that we need to do more than change our actions, e.g., efforts to reduce by-catches and carbon emissions. We need to correct our fellow humans. They encourage young people to pay attention to traditional rules for living, believing that better values will lead to correct actions. The way Yup'ik elders work to correct their youth is to speak to them—as they did during village gatherings—sharing knowledge with kindness and compassion. As they say: "We talk to you because we love you." Stanley Anthony vehemently maintained the need to instruct the young, because "The instructions aren't mine," implying they are not made up and should not be cast aside.

Finally, elders do not dissociate themselves from observed changes in their homeland. They accept personal responsibility. They relate the negative impacts of change they observe today to their failure to instruct their younger generation in proper behaviour. Now, they say, is the time to reverse this trend. Observing uninstructed young men and women, John Eric (January 2007: 26) remarked: "We must talk to them, to delay them from becoming like dogs." Elders warmly embraced our work together, which they view as much more than passive documentation of change but as part of an active solution.

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